

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An image sensor, comprising:

an image acquisition portion;

an image processing portion, receiving image information from said image acquisition portion, said image processing portion including a CMOS circuitry with CMOS differential outputs having an output impedance;

an image receiving portion, having at least a pair of transistors and an input impedance, receiving said image information from said CMOS outputs, said image processing portion producing a current mode output and said image receiving portion receiving said current mode output; and

an active impedance matching device having a current source, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion by adjusting, with said current source, a bias current through said at least a pair of transistors.

2. (Cancelled).

3. (Currently Amended) A sensor as in claim 1 wherein said impedance matching device [[circuit]] comprises a circuit on said image processing portion [[circuit]].

4. (Currently Amended) A sensor as in claim 3 wherein an output circuit of said image processing portion [[circuit]] includes a transistor adapted to receive a current bias, wherein a magnitude of the current bias sets the output impedance of said image processing portion.

5. (Cancelled).

6. (Currently Amended) A sensor as in claim 1 wherein said impedance matching device [[circuit]] comprises a circuit on said image receiving portion [[circuit]].

7. (Cancelled).

8. (Currently Amended) A sensor [[as in claim 4 wherein said input impedance is matched to an output impedance of the image processing portion]] comprising:

an image acquisition portion;

an image processing portion, receiving image information from said image acquisition portion, said image processing portion including a CMOS circuitry with CMOS differential outputs having an output impedance;

an image receiving portion, having an input impedance, receiving said image information from said CMOS outputs, said image processing portion producing a current mode output and said image receiving portion receiving said current mode output; and

an active impedance matching device, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion; and

a current mode driver having an output voltage swing of less than 0.5 volts.

9. (Currently Amended) A sensor as in claim 1 wherein said impedance matching device [[circuit]] comprises a first circuit on said image processing portion [[circuit]] and a second circuit on said image receiving portion [[circuit]].

10. (Previously Presented) A sensor as in claim 9 wherein said first and second circuits include respective elements adapted to receive respective current biases, and wherein respective magnitudes of the current biases set the respective impedances.

11. (Currently Amended) A sensor [[as in claim 4 wherein said output impedance of said image processing circuit is matched to an input impedance of the image receiving circuit]] comprising:

an image acquisition portion;

an image processing portion, said image processing portion being adapted to receive image information from said image acquisition portion at a differential input; and

an impedance matching device, said impedance matching device being adapted to match an output impedance of said image acquisition portion to an input impedance of said image processing portion by adjusting bias current through at least one biased device in a way that renders said input impedance relatively independent of an input current; and

a current mode driver having an output voltage swing of less than 0.5 volts, wherein said image acquisition portion and said image processing portion each operate in current mode.

12. (Currently Amended) A sensor as in claim 1, wherein said image receiving portion [[circuit]] includes a current mirror part, that mirrors an input current.

13. (Currently Amended) A sensor as in claim 1 wherein said image acquisition portion [[circuit]] is an active pixel sensor with a photosensor, an in-pixel buffer, and an in pixel select transistor.

14. (Previously Presented) An image sensor, comprising:

an image acquisition portion, wherein said image acquisition portion is an active pixel sensor with a photosensor, an in-pixel buffer, and an in pixel select transistor;

an image processing portion, receiving image information from said image acquisition portion, said image processing portion including a CMOS circuitry with CMOS differential outputs having an output impedance;

an image receiving portion, having an input impedance, receiving said image information from said CMOS outputs, said image processing portion producing a current mode output and said image receiving portion receiving said current mode output; and

an active impedance matching device, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion;

wherein said image acquisition portion and said image processing portion operates at substantially zero voltage.

15. (Currently Amended) An image sensor, comprising:

an image acquisition portion;

an image processing portion having at least a pair of transistors, said image processing portion being adapted to receive image information from said image acquisition portion at a differential input; and

an impedance matching device having a current source, said impedance matching device being adapted to match an output impedance of said image acquisition portion to an input impedance of said image processing portion by adjusting bias current, from said current source, through said at least a pair of transistors [[one biased device]] in a way that renders said input impedance relatively independent of an input current.

16. (Original) An image sensor as in claim 15, wherein said image acquisition portion and said image processing portion each operate in current mode.

17. (Previously Presented) An image sensor, comprising:

an image acquisition portion;

an image processing portion, said image processing portion being adapted to receive image information from said image acquisition portion at a differential input; and

an impedance matching device, said impedance matching device being adapted to match an output impedance of said image acquisition portion to an input impedance of said image processing portion by adjusting bias current through at least one biased device in a way that renders said input impedance relatively independent of an input current;

wherein said image acquisition portion and said image processing portion each operate in current mode, and wherein said image acquisition portion and said image processing portion operate at substantially zero voltage.